III. ALTERNATIVES

A. Project Description

Alternate 2

Bridge No. 38 will be replaced on a new alignment to the east of the existing bridge, while traffic remains on the existing structure during construction (see Figure 2A). The total project length of the new alignment will be 1310 feet.

The permanent replacement structure will be a bridge approximately 280 feet long providing a minimum 30 feet clear deck width. The bridge approaches will include two 11-foot lanes and 4-foot offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements.

The existing roadway will be widened to a 22-foot pavement width to provide two 11-foot lanes. Four-foot shoulders will be provided on each side, which will be paved in accordance with the current NCDOT Design Policy (The shoulder will include three additional feet where guardrail is required) 4-foot of which is paved to accommodate bicycles. The shoulders will be 9 feet where guardrail is included. The roadway will be designed. The bridge is higher than existing on the south end and the north end is close to existing. The grade on the existing structure was approx. -0.3%. The grade on our proposed structure is +1.4%.

There is a de-chlorination plant located east adjacent to the bridge, which is in close proximity to the proposed ROW. Alternate 2 would have impacts to the driveway that gives access to this plant. A new driveway as well as relocating the stream monitor that is part of the de-chlorination facility would cause a relocation cost of about $ 631,000.

Alternate 3 (Preferred Alternate)

Bridge No. 38 will be replaced on new alignment to the west while traffic remains on the existing structure during construction (see Figure 2B). The total project length of the new alignment will be 1600 feet.

The permanent replacement structure will be a bridge approximately 280 feet long providing a minimum 30 feet clear deck width. The bridge approaches will include two 11-foot lanes and 4-foot offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements.

The existing roadway will be widened to a 22-foot pavement width to provide two 11-foot lanes. Four-foot shoulders will be provided on each side, which will be paved in accordance with the current NCDOT Design Policy (The shoulder will include three additional feet where guardrail is required) 4-foot of which is paved shoulders to accommodate bicycles. The shoulders will be 9 feet where guardrail is included. The roadway will be designed using Sub-Regional Tier Design guidelines with a 50 mph design speed. The bridge length is based on